

American Climatological Assoc.

REPORT OF THE COMMITTEE ON  
—  
HEALTH RESORTS.

*Extracted from Volume XI. of the  
Transactions of the American Climatological Association,  
1895.*



*Submitted to the American Climatological Association by the Committee:*

V. Y. BOWDITCH, M.D.,  
Chairman.

I. H. PLATT, M.D.,  
SAMUEL FISK, M.D.,  
KARL VON RUCK, M.D.

E. O. OTIS, M.D.,  
Secretary.

# REPORT OF THE COMMITTEE UPON HEALTH RESORTS.

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THE presentation of the following reports upon some of the health resorts in the United States is the beginning of an attempt to collect reliable data regarding these resorts which will be of service to the physician-at-large. It is proposed to continue this work from year to year as information can be obtained ; and all members of the Association are urged to co-operate with the Committee in their exertions to discover health resorts, and obtain authentic facts concerning them. Lists of health resorts and the names of reliable persons in them with whom to communicate are especially desired. In the list of those herewith given no selections have been made, but all from whom we have received a response to our circular with sufficient data are included. Of course, there are many resorts not mentioned in this report owing to the fact that no reliable person in the place was known to the Secretary, or no response to the circular was received, or the place was not called to the Secretary's attention ; later, it is hoped that these omissions will all be filled. The circular-letter sent out is here given that it may be seen upon what lines we worked. The aim was to collect such information, meteorological and other, as would enable the physician to select intelligently and with some degree of assurance the climate best adapted to the needs of the patient he was proposing to send away. The especial class of diseases the various resorts were

supposed to be favorable for has not been mentioned designedly, that being left for the physician to determine from the data given.

The Committee is fully aware of the incompleteness and unsatisfactory nature of many of the reports, but the work was new and the difficulty of obtaining the facts not inconsiderable.

The reports of resorts here given are as follows :

California (Southern)—Los Angeles; the Ojai Valley; Pasadena; Redlands; San Diego.

Colorado—Denver; Colorado Springs; Boulder.

Florida—Winter Park; Tampa.

Georgia—Augusta; Marietta; Thomasville.

Kansas—Dodge City.

Minnesota—St. Paul.

New Jersey—Atlantic City; Lakewood.

New Mexico—Albuquerque; Las Cruces; Las Vegas; Santa Fé.

New York—Richfield Springs; Saratoga Springs; Sharon Springs; Saranac Lake.

North Carolina—Hot Springs; Southern Pines; Pinebluff.

Pennsylvania—Kane, McKean Co.; Eagle's Mere; Pocono.

South Carolina—Aiken; Camden; Summerville.

Tennessee—Chattanooga.

Texas—Boerne.

Utah—Salt Lake City.

Bermuda.

\* *Copy of the Circular Sent Out.*

1. What is the altitude of your region?
2. What are its general characteristics as to dryness and porosity of soil? The maximum and minimum daily temperature? Relative humidity?
3. Do you ever have high winds or fogs?
4. What proportion of bright, sunny days do you have in the year?
5. Are there first-class hotels and boarding-houses there?

Are there facilities for renting or buying comfortable houses, or for keeping house comfortably at reasonable expense? Give the address of some responsible person from whom particulars in regard to these matters may be obtained, when needed.

6. What attractions are there for out-of-door and indoor life?
7. What particular advantages are claimed for your region as a health resort, and upon what facts and observations are these claims based?

8. State any other facts deemed of importance.

#### CALIFORNIA.

*Los Angeles.* Situated in the southwestern part of the State, about twenty miles from the ocean; a city of 75,000 inhabitants; with an elevation of 330 feet.

There are two seasons: rainy and dry, the winter is the season of rain. The soil is generally dry and porous. Some few localities are termed adobe or damp lands, but the dry soil predominates.

The mean yearly maximum temperature, compiled for a period of years, is  $87.3^{\circ}$ ; mean yearly minimum  $43.4^{\circ}$ . Relatively yearly humidity for a period of years 69 per cent.

During the nights and mornings the winds are generally light land-breezes. In the early afternoon they turn to fresh westerly sea-breezes. There are high winds during the winter, and cyclonic periods during the rainy season. During the dry season there is an occasional "Norther" due to a very high atmospheric pressure north of California, with a relatively low one in the Southern California region. Fogs are more frequent during the change of seasons, when cooler, moist air comes in from the Pacific Ocean.

The average number of clear days is 176; fair days 140; cloudy days 49; making 316 days a year in which a person could be out of doors. Average number of rainy days 42.

There are first class hotels with favorable rates. Many flats have lately been erected with facilities for light house-

keeping at reasonable rates. Comfortable houses can be bought on favorable terms. Many avail themselves of the offers made by firms and individuals of supplying themselves with houses on the instalment plan. The following firms make a specialty of this branch of business: Pirtle Real Estate and Trust Co., 229 West Second Street; Grider & Dow, 109½ South Broadway; Robert McGarvin, 220½ South Spring Street; Clark & Bryan, West Third Street; D. R. Clay, 138 South Spring Street.

There are the indoor attractions usually found in a city of 75,000 inhabitants. The out-of-door attractions are numerous and varied, especially during the winter and spring months. There are floral carnivals in January, March, and April. The seaside resorts offer attractions all the year around. The mountains are in close proximity, and several of the houses are open throughout the year. There are daily excursions into the orange-growing sections during the winter months. The winter climate is such that one can be out of doors from November to May.

The advantages of this region as a health resort are its dry soil, mild temperature, comparatively low humidity, the number of days in which one can be out of doors (316), and the fact that the altitude and climate can be varied by a few hours' journey.

*The Ojai Valley, Ventura Co.* This valley is situated in the southwestern portion of the State, about fifteen miles from the ocean, reached by stage from San Buenaventura to Nordhoff (sixteen miles). It is approximately six to eight miles long, and from two to four wide. Its altitude is from 900 to 1500 feet.

The soil consists of gravel on the foot-hills and upper slopes, with more or less loam on the level parts and bottoms. Clay subsoil and considerable adobe with some alkali throughout the valley. In most places water runs off quickly or is absorbed rapidly.

Temperature: Winter extremes 80°-26°, ordinary 70°-

40°, summer extremes 110°–50°, ordinary 90°–65°. The atmosphere is said to be extremely dry, and there is no dew. There are occasional high winds with sand-storms. Wind from the north from Mojave desert with considerable electrical disturbance. Fogs are infrequent, and when they occur they burn off by 9 A.M. with a few exceptions.

During the year 1894 there were over 300 bright, sunny days. The average yearly rainfall is sixteen inches.

There are no comfortable accommodations in the valley. Two very primitive hotels. No comfortable houses for rent or sale. There is one well-built boarding-house which has been well spoken of; for particulars one is referred to its owner, Dr. Pierpont, Ojai Valley, Ventura Co., California.

The attractions are all out of doors; horseback-riding through interesting mountain trails and magnificent scenery; rather poor fishing; good hunting, deer, quail, wild doves, rabbits.

The advantages of this valley as a health resort are: The extreme dryness of the air; the few rainy days and absence of dew, so that one can sleep out of doors; protection from coast fogs and winds by a range of mountains; and the slight elevation above sea-level. There are an infinite number of attractive horseback-rides, and one fond of riding could almost live in the saddle. The flora is extensive and offers considerable attraction to lovers of botany. In the spring the fields are a mass of wild flowers. "The valley is one of the most beautiful spots in California," but somewhat difficult of access, and has no good accommodations.

*Pasadena.* Situated in the southwestern part of the State, of an elevation of 800 to 1000 feet. Within eight miles of Pasadena are various points varying in elevation from 1200 to 3500 feet.

The soil is a sandy loam, a detritus from the mountains, and very porous. The drainage is good.

The mean average temperature for January is 53.9°; July 70.2°; December 58°; August 70°.

The mean maximum and minimum temperature for December: 88° maximum, 37° minimum; for July 90° maximum, 51° minimum.

The relative humidity for July is 60; December 64; September 70.

At Los Angeles, which has about the same temperature range as Pasadena, the mean yearly maximum temperature compiled for a series of years is 87.3°, and the mean yearly minimum 43.4°. The relative yearly humidity for a period of years 69; that of Pasadena is slightly less than this.

There are seldom high winds, "probably on an average three days in the year." From April to September fogs are quite frequent in the early morning, disappearing by eight or nine o'clock. The proportion of bright, sunny days is said to be slightly greater than at Los Angeles, which is as follows: clear days 176, fair 140, cloudy 49, making 316 days in a year in which a person can be out of doors. Average number of rainy days 42.

There are first-class hotels and boarding-houses; the population of the town being 6000. There are all grades of houses for sale and to rent, and one can keep house comfortably at a reasonable expense. The President of the First National Bank, and of the Pasadena National Bank, and Mr. Robert Strong, Pasadena, Cal., may be consulted for particulars in regard to these matters.

The attractions are chiefly for outdoor life. "The town and the country round about being very attractive and beautiful." There are drives to various points of interest, old missions, orange groves, vineyards, the mountains and numerous cañons, and the mountain railroad to the summit of Echo Mountain.

The peculiar advantages claimed for this region are the mild climate and large number of sunny days, inviting and almost compelling people to live much out of doors. The winters are especially agreeable, and there is seldom extreme heat in summer, and the coldest time in winter is only a trifle

below freezing-point. It is essentially a marine climate, but mild, uniform, and relatively dry.

"It is the most enjoyable all-the-year-round climate," says one writer, "of which I have knowledge, and there are few places with equal social and educational advantages, and where the means of comfortable and even luxurious living are attainable."

*Redlands.* Redlands is 1350 feet above the sea-level, and is in a valley surrounded by mountains of from 5000 to 10,000 feet in altitude.

It is a town of from 4000 to 5000 inhabitants. The soil is dry, red, deep and porous, in some places stony. For an illustration of the temperature and humidity, see the following table for the month of December, 1893 : the observations were made by Mr. William H. Tisdale, of Redlands :

Date.	Hour.	Dry.	Wet.	R. H.	Hour.	Dry.	Wet.	R. H.	Min.	Max.
<i>1893</i>										
Dec. 4	11.30	...	...	19	4.30	70½	53	27	44	73
5	11.00	78	53	13	4.00	76	58	31	49	80
6	11.00	69	53	32	3.30	72	52	22	50	80
7	11.45	72	56	35	6.00	63	49	33	49	71
8	11.45	76	60	38	4.00	72	60	49	54	76
9	12.50	72	58	42	4.30	70	57	44	52	72
10	12.55	70	56	40	4.45	65	54	48	48	68
11	12.30	68	55	42	4.30	65	55	52	46	68
12	12.45	59½	51	54	.....	...	...	...	35	61
13	12.40	61	53	58	.....	...	...	...	44	60
14	12.50	60	56	78	.....	rained at 3 or 4 P.M.	...	...	47	60
15	12.30	68	54	38	4.40	63	49	38	41	67
16	1.10	67	56	49	4.30	63	53	51	44	67
17	1.45	70	58	48	6.00	61½	49	38	47	70
18	1.00	69	54	35	5.00	63	53	51	46	68
19	1.15	60	54	70	4.45	58	53	72	45	61
20	12.50	60	54	65	5.00	59½	55	75	45	62
21	10.50	58	53	67	.....	...	...	...	44	61
22	11.10	55	51	76	5.00	52	50	87	39	54
23	12.30	57	48	50	.....	...	...	...	41	57
24	11.50	50	46	74	4.00	44	48	73	44	53
25	1.00	55	50	70	.....	...	...	...	39	54
		raining				raining				
26	1.10	45	42	78	.....	45	42	78	46	53
		rainy about us				.....	...	...	...	...
27	12.30	54	48	64	.....	51	47	74	41	53
28	1.00	52	46	63	4.10	53	45	52	38	53
29	12.00	68	50	56	4.50	55	48	59	35	59
30	12.30	61	50	44	4.00	57	47	45	40	60
31	2.00	62	49	41	.....	...	...	...	39	61

R. H. = Relative humidity. Dry = Dry thermometer. Wet = Wet thermometer.

There are two seasons, wet and dry; the rainy season, however, means that there may be rain, and does not imply continuous wet weather. The vast majority of the days in that season are sunny and dry, and when it does rain it is generally at night. For six months there is absolutely no rain. It is hot in summer, but owing to the excessive dryness it is said not to be oppressive. At night, even in the hottest weather, one sleeps under blankets, though in the day-time the thermometer may register 110° F.

There are occasional high winds called "Northers," perhaps half a dozen in the year; also occasional fogs which generally disappear before 9 A.M.

For about seven months, from April until the last of October, a cloud is rarely seen. During the rest of the year there is about 12 inches rainfall.

There are two fair hotels, not to be especially recommended; a first-class one is in contemplation. Good board can generally be obtained in private families. Many houses can be rented at reasonable rates. Patients sometimes live in tents the year round, and this plan is recommended as inexpensive and healthy. For particulars one is referred to John P. Fisk, Jr., Redlands, California.

The attractions are those generally found in towns of this size inhabited by people of a high degree of cultivation, and in addition the many outdoor ones which the climate and scenery afford, horseback-riding, bicycling, ranching, orange-growing, etc.

The particular characteristics and advantages of this region are its dry soil, moderate elevation, warm, dry atmosphere, the large proportion of sunny days, and outdoor attractions, all conducing to a life in the open air.

*San Diego.* Situated in the extreme southwestern portion of the State on the coast. It rises from the sea-level to 225 feet.

The mean maximum and minimum temperature for the

year, from April, 1889, to March, 1890, inclusive, is as follows :

		Temperature.		
		Mean.	Max.	Min.
April, 1889	.	67.8°	83°	47°
May,	"	66.9	80	50
June,	"	69.2	72	56
July,	"	73.2	84	56
August,"		76.7	89	62
September, 1889	.	77.6	91	54
October,	"	65.0	80	52
November,	"	71.6	83	46
December,	"	62.5	69	40
January, 1890	.	51.0	66	35
February,"		54.4	77	38
March,	"	55.8	74	41

For the same twelve months the rainfall was as follows : April, 1889, 0.19 (inch); May, 0.03; June, 0.10; July, trace; August, 0.04; September, trace; October, 2.12; November, 0.12; December, 7.71; January, 2.79; February, 1.70; March, 0.31.

The coast fog, about which so much has been written, is most frequent in this region during the months of April and May. The fog-bank usually rolls in about nightfall and disappears a few hours after sunrise. Generally by 9.30 A.M. the coast is entirely free from fog. During these months there may be two or three days on which the fog will be more persistent, and a fine mist may last until 12.30 or 1 P.M., but this only perhaps a half-dozen days out of the year.

"There are 279.9 clear, fair days during which the invalid can remain in the open air from sunrise to sunset. The cloudy days occur during the summer, and serve as a break in the former period of almost constant sunshine."

There are many opportunities for outdoor life and amusements. The surrounding country "abounds in large and small game; the Cuyamaca and San Jacinto Mountains afford deer hunting, and are desirable localities for camping parties. There is fishing and sailing during all seasons of the year. There are attractive excursions either by rail or boat

into old Mexico. There are also many attractive inland and coast resorts within driving distance of the city. Many of the old missions established throughout California, more than a hundred years ago, are still in existence, either in active occupation or as picturesque ruins."

The accommodations are said to be good, there being first-class hotels and boarding-houses and good facilities for living according to one's means and desire.

Particulars with regard to accommodations, etc., can be obtained from Ross, Dickinson & Co., D Street above Fifth Street, San Diego, Cal.

The county of San Diego presents within its boundaries various altitudes from the sea-level at San Diego to Mount San Jacinto of 11,100 feet elevation, and consequently varying climatic conditions are obtainable. The particular advantages claimed for San Diego itself are those of a warm, equable, marine climate with a majority of clear, fair days. "It is a well-known fact that a thermometrical heat which would be enervating in other localities is stimulating in Southern California."

One is referred to the many articles upon Southern California, especially to "The Climate of Southern California in Relation to Diseases," by William A. Edwards, M.D., San Diego, Cal. (Reprinted from the *Climatologist*, August, 1891.)

#### COLORADO.

*Denver.* Situated in the northern half the State just east of the Rocky Mountain Range, 5287 feet above sea-level.

The soil is gravelly and porous, well-drained. There are apt to be wide ranges of temperature, warm days and cool nights. The mean temperature for ten years is 49°, and the mean relative humidity 52. For a careful and exhaustive consideration of the meteorology of Denver, which applies to all this portion of Colorado, one is referred to "Some Meteorological Data," by Samuel A. Fisk, M.D., reprint from the *Boston Medical and Surgical Journal*, September 13, 1894;

and, also, *Rocky Mountain Health Resorts*, by Charles Dennison, M.D., 1880, Houghtin, Mifflin & Co., Boston.

Fogs are almost unknown. The average daily motion of wind is 169 miles, or 85 miles less than the average in Boston. High winds occur occasionally, but only about half as often as in New York, for comparison.

In an average of ten years there were 150 clear days; 164 partly cloudy; and 51 cloudy.

Denver being a large city is well supplied with hotels and boarding-houses at various prices. Houses can be rented furnished or unfurnished. On ranches room and board can be obtained for from \$5 to \$8 a week. The best plan is for one to go to one of the hotels in town and then obtain particular directions from a physician.

In Denver itself there are such attractions as any large city offers. For purely out-of-door life there is not so much attraction except that of climate, sunshine, and dry air.

The particular advantages of this region which Denver represents as a health resort are: Altitude; dry air; sunshine; freedom from fogs; small amount of precipitation; large number of clear days; dry, porous, sandy soil; small daily movement of wind. These advantages exist approximately in the strip of country about fifty miles wide, extending from Wyoming south along the eastern base of the Rocky Mountains, through Colorado into New Mexico, and then turning southwest into Arizona, taking into account the season of the year. In this belt no particular spot is so much better than another so far as the climatic conditions are concerned.

*Colorado Springs.* Situated in the eastern central portion of the State, about 75 miles south of Denver, 6000 feet above the level of the sea; a city of from 10,000 to 12,000 inhabitants. It is in close proximity to Cheyenne and Pike's Peak Mountains.

Ten months out of the twelve it is extremely dry. The soil is composed of a coarse gravel to a depth of 60 feet,

with a clay bed sloping to watercourse. It is dry and porous, retaining no moisture, so that irrigation has to be practised.

The daily mean temperature for five years is: Spring 45°; summer 66°; autumn 47°; winter 30°. Year 47°. Maximum temperature 93°; minimum 3°.

The relative humidity is: Spring 46 per cent.; summer 50 per cent.; autumn 54 per cent.; winter 50 per cent. Yearly 50 per cent.

There are no fogs.

During the months of March and April high winds prevail, but only from about 11 A.M. to 3 P.M.; not every day, probably about half of the days in each of these months.

There are 311 average clear days and 54 cloudy or stormy. One authority gives an average of 340 bright, sunshiny days.

There are first-class hotels and boarding-houses. Well-built houses, large and small, for sale or rent. Housekeeping can be done at reasonable expense, and the markets are excellent.

There are two sanitariums, "Bellevue" and "Glockner." For particulars one is referred to George R. Buckman; H. Le B. Willis & Co.; Bennett & Evans; C. L. Lawton; Mathew Kennedy, Colorado Springs, Col.

There are both out and indoor attractions, cañons, grottoes, glens, etc., within five miles, reached by drives or electric cars. Riding, cycling, golfing, polo, skating, tennis, cricket, riding to hounds, walking over the plains and mountains, etc.

In the town there is a country club, casino, library, college, and many opportunities for social intercourse.

The advantages of this place as a health resort are: The dryness, purity, and rarefaction of the air; the dry soil; the large number of sunshiny days; the attractive outdoor life; and the excellent accommodations. "The climate is temperate, as shown by its means, and yet varied, as shown by its range, so as to be stimulating and not sedative."

*Boulder.* Elevation 5500 feet above sea-level. Situated in the heart of the Rocky Mountains, about 25 miles northwest of Denver. Boulder has a population somewhat over

4000 inhabitants, and is the seat of the State University with all its departments. It has an excellent school system, reasonable living, and good society.

The soil is dry and porous, except in areas of clayey soil. Irrigation necessary to raise crops. The proportion of bright, sunny days is very large, there being 360 per year.

From October to March there are occasional high west winds, mainly dry and warm; seldom do any damage. Once or twice a year a fog settles over mountains and plains, but lasting only a few hours.

The accommodations would not be called first-class, but they are ample, and there are facilities for renting or buying comfortable houses. Any information in regard to accommodations can be obtained from Mr. Thomas V. Wilson or Mr. John W. Day, of Boulder, Col.

The out-of-door attractions are those always found in mountainous regions, fine drives, etc.

The particular advantages claimed for this place as a health resort are: Almost constant sunshine; clear, bracing air, which is cool in the shade even in hot weather; and nights that give invigorating sleep and rest. The scenery is grand and inspiring.

(See Vol. X. TRANSACTIONS of this Association.)

#### FLORIDA.

*Winter Park, Orange Co.* Although Winter Park is in the midst of the lake region, it has an altitude of over 100 feet above tidewater.

Winter Park is situated on the Peninsula of Florida, in about its narrowest portion, being forty miles west of the Atlantic Ocean and eighty miles east of the Gulf of Mexico. It is about 133 miles south of Jacksonville and 100 miles north of Tampa, and on a direct railroad system from all points in the North.

The air is fine and dry, the country around Winter Park being made up of high pine lands, no marshes or stagnant ponds, but, instead, a chain of beautiful, clear-water lakes.

The temperature of the winter days averages from 60° to 65° during the twenty-four hours. Occasionally there is a frost, and once in a while freezing temperature at night, but none during the day. It rains very seldom during the winter months, but there are heavy dews night and morning.

The hotel accommodations are first class, "The Seminole" being one of the most comfortable and convenient houses.

The out-of-door sports are many and varied, there being tennis, croquet, fishing, driving and riding horses, steam and rowboats, etc.

The particular advantages claimed for this region as a health resort are its equable, clear, sunny climate, in which a person can have and enjoy a great deal of out-of-door life, and its freedom from malaria.

*Tampa.* Elevation 20 feet above sea-level. Tampa is situated in the southwestern part of the Peninsula of Florida, at the terminus of the South Florida Railroad.

It has a porous, sandy soil, generally dry in winter, wet in summer during rainy season.

Mean annual temperature 72° F.; mean winter temperature 62° F.; mean summer temperature 80° F. Relative humidity 85.

For mean maximum and minimum temperatures and relative humidity for every month, see following table:

							Max.	Min.	Average humidity. Per cent.
•	January	.	.	.	.	.	73°	54°	84
	February	.	.	.	.	.	73	56	84
	March	.	.	.	.	.	78	58	80
	April	.	.	.	.	.	82	62	76
	May	.	.	.	.	.	86	65	76
	June	.	.	.	.	.	89	70	84
	July	.	.	.	.	.	89	74	83
	August	.	.	.	.	.	89	74	81
	September	.	.	.	.	.	87	72	86
	October	.	.	.	.	.	82	66	86
	November	.	.	.	.	.	76	56	84
	December	.	.	.	.	.	71	54	86

There are sometimes fogs over the bay, but seldom over the city. Occasionally there are high winds in summer, at time of hurricane season.

The proportion of bright, sunny days throughout the year is 65 per cent.

In Tampa can be found first-class hotel and boarding-house accommodations. Refer for information to Messrs. Hendry and Knight, Tampa, Fla.

For out-of-door amusements there are fishing, shooting, driving, rowing, tennis, etc.

The particular advantage claimed for this region as a health resort is its warm climate of great equability.

#### GEORGIA.

*Augusta.* Situated in the northeastern part of the State on the Savannah River, which forms the boundary between Georgia and South Carolina.

Augusta proper has an elevation of from 165 to 200 feet. At the Sand Hills, two and a half miles distant, it is 463 feet.

The soil is chiefly white sand with a subsoil of sand in which is mixed some red clay; it is therefore very porous, and the ground never has water standing on it for any length of time after the hardest rains.

The mean temperature for twenty-three years in the city is 64°; maximum 99°; minimum 20°. Relative humidity: 1886, 76; 1887, 73; 1888, 76; 1889, 78; 1890, 76; 1891, 76; 1892, 75; about the same as Aiken, which is located 16 miles from Augusta on the same sand ridge.

High winds and fogs are exceedingly infrequent.

Extending over a period of twenty years, the mean number of fair days for the year was 238; cloudy days 70; snow about two days to every three years.

For accommodations there is the "Bon Air" Hotel affording accommodation for 300 guests, situated on Summerville Heights, the "Sand Hills," two miles from the city of Augusta; it is a first-class hotel. There are also numerous well-kept boarding-houses, facilities for buying residences,

but few houses for rent. For information regarding houses, etc., one is referred to Mr. John Dickey or Alexander & Johnson, real-estate agents, Augusta, Ga.

The out-of-door attractions are : Driving, horseback-riding, hunting, tennis, and boating. The roads are good. The city itself (45,000 inhabitants) affords diversion of various kinds.

The particular advantages claimed for this region are the bracing property of the air, the extreme porosity of the soil, equability of temperature, and absence of sudden atmospheric changes. These, coupled with the comparative lack of humidity in the air and the large number of clear, warm days, make the place one of importance as a health resort for various diseases.

*Marietta, Cobb Co.* This city covers an area of  $1\frac{1}{2}$  by 2 miles, diversified in surface from 1100 to 1200 feet above sea-level.

Marietta is situated in the northwestern part of the State, and has a population of over 2000.

The soil is dry and sandy, very little marsh or moist land. The region is free from malaria.

It is a breezy region, but there are no cyclones or wind-storms, and no foggy weather.

Average temperature of the year  $57\frac{2}{3}^{\circ}$ . The variation from this is seldom as much as one degree.

For proportion of bright, sunny days, maximum and minimum temperature, rainfall, etc., see following table for 1888 :

Number of sunny days.	Number of rainy or cloudy days.	Av. min. temp. of month.	Av. max. temp. of month.	Extremes of		Rainfall.	Month.
				Max.	Min.		
17	14	36°	49°	72	12	3.10 in.	January.
15	14	40	54	69	10	4.09 " "	February.
22	9	30	58	77	19	9.81 " "	March.
26	4	52	73	82	42	1.48 " "	April.
25	5	57	74	85	41	5.13 " "	May.
27	3	68	82	89	60	2.26 " "	June.
25	6	66	85	92	64	4.14 " "	July.
24	7	68	83	90	50	3.15 " "	August.
18	12	60	73	83	40	8.01 " "	September.
22	13	49	64	77	37	3.96 " "	October.
23	7	44	58	75	26	4.38 " "	November.
19	12	34	49	64	18	4.97 " "	December.

For accommodations Marietta has two hotels, one of them built only three or four years ago. They are well kept, quiet, and comfortable. There are also various good boarding-houses, where guests can be well provided for. Also a few houses can be rented in and near the city, and some for sale. For information apply to Dr. G. C. Burnap, Marietta, Ga.

The particular advantages claimed for this region as a health resort are its comparatively invigorating climate, dry soil, and temperature, with freedom from malaria.

*Thomasville.* Elevation 330 feet above sea-level. Thomasville is situated in the southern part of the State near the Florida line.

The soil is sandy and very porous, and dries quickly after a rain. The forests are of pine (the long-leaf Georgia pine).

The following is a consolidated meteorological report for the last year by Prof. L. S. Swain, Volunteer Observer, U. S. Signal Service, at Thomasville.

		Temp.	Relative humidity. Per cent.
January	.	54.39°	65
February	.	55.87	62
March	.	61.61	61
April	.	67.35	60
May	.	74.50	65
June	.	80.02	63
July	.	81.99	67
August	.	79.33	72
September	.	76.12	71
October	.	68.94	69
November	.	58.66	67
December	.	53.40	64
Annual mean	.	67.78	65

Thomasville's mean winter temperature is 54.55°. For clear and fair days during the year there are generally 268. The prevailing winds are south and northwest.

For accommodations there are four first-class hotels under excellent management, several small hotels, and a number of comfortable boarding-houses. Also houses, furnished or un-

furnished, can be rented or purchased at reasonable rates. Refer to the Hon. H. W. Hopkins, real-estate agent.

The out-of-door amusement are those found in any resort, with the addition of beautiful drives among the pine forests and quail-shooting.

The particular advantages claimed for the region as a health resort, besides its fine climatic advantages, are its location in the midst of the great pine forests; its distance from rivers, river swamps, and large bodies of standing water, and the many clear days in the winter season.

#### KANSAS.

*Dodge City.* Elevation 2500 feet. Situated in the southwestern part of the State on the Atkinson, Topeka, and Santa Fé Railroad, in the Arkansas River country, and is easy of access, being twenty-eight hours from Chicago.

From a report of the United States Weather Bureau for seventeen years from 1875, the average temperature was 53° and the average rainfall 21 inches. For 1891 the number of cloudless days was 155; number of partly cloudy days was 155; number of cloudy days was 55; number of days with rain was 80; number of thunder-storms 31.

The prevailing wind is from the south. The average hours of sunshine 8.1. High winds are comparatively common during spring, autumn, and winter. A fog is a rare experience, but some seasons are very wet ones, while others are quite dry.

For accommodations there are no first-class hotels, but there are numerous boarding-houses where people can be made comfortable. Also cottages can be rented at moderate rates. Address for information Rev. E. H. Vaughan, President of Soule College, or H. Whitworth, M.D., Dodge City, Kansas.

For out-of-door attractions there are excellent roads, driving, riding, etc.; there are also churches, schools, and theatres.

The particular advantages claimed for this region as a health resort are its medium altitude; dry, pure air; nearly perpetual sunshine; summer heat rarely oppressive; winters

short and usually mild; the air free from malarial influence; and the water clear and abundant.

#### MINNESOTA.

*St. Paul.* Elevation 800 feet. St. Paul is situated in the eastern part of the State, not far from the Mississippi River. Has a population of over 100,000 inhabitants.

The soil is dry and sandy, porous, and dries very quickly after rain.

Fogs are unknown in St. Paul, but high winds are not infrequent.

The region is favored with a great many sunny days, especially in the winter, on an average from 20 to 25 sunny days a month.

For accommodations the hotels in St. Paul and Minneapolis are good; also at the lakes near St. Paul there are fine, large hotels open during the summer season. Houses or apartments can be had at any time of any real-estate agent.

The attractions for outdoor life in winter are skating, ice games, sleighing, etc.; and in summer, fishing, boating, bathing; and in the fall, shooting.

The winters although cold are very dry, and with a large proportion of bright, sunny days; this region is a most desirable one for those with vigor enough to withstand the cold of the winter months.

There is one advantage this region has over many other health resorts, and that is that there is much better opportunity for the patient to find work if necessary.

The water supply of St. Paul is very pure; it is drawn from carefully guarded lakes from 10 to 25 miles from the city.

There are electric street-cars running every five minutes between St. Paul and Minneapolis, which make the midway district, which is several miles in length, a particularly appropriate place for invalids, within easy access of either city and still away from any contaminated atmosphere.

To give an idea of the temperature, with maximum, minimum, and mean temperature for five years, see following table:

## HEALTH RESORTS.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.	Winter months.			
														Dec.	Jan.	Feb.	
1889	Max.	42	50	67	76	84	90	96	91	88	76	36	47	96	51		
	Min.	-10	-25	13	26	33	42	50	49	32	25	-4	-4	-25	-22		
	Mean	18	9	34	47	55	64	71	70	59	45	29	28	44	18		
1890	Max.	42	51	51	83	86	94	94	92	84	71	59	53	94	53		
	Min.	-22	-12	-16	19	27	51	51	43	31	22	9	-3	-22	-25		
	Mean	9	18	22	22	47	52	69	71	65	58	46	35	24	19		
1891	Max.	46	44	48	83	83	89	89	94	93	74	60	53	94	53		
	Min.	-2	-25	-9	13	28	40	47	42	42	29	-13	-6	-25	-25		
	Mean	21	11	23	48	57	65	66	68	67	50	29	30	45	21		
1892	Max.	47	48	56	66	74	90	91	87	85	84	51	33	91	38		
	Min.	-25	-17	-4	17	30	43	52	46	43	25	0	-16	-25	-27		
	Mean	11	23	30	43	51	65	92	70	63	53	30	17	44	11		
1893	Max.	53	38	53	73	79	92	97	95	94	82	73	33	91	33		
	Min.	-26	-27	-5	21	33	46	55	46	32	17	-10	-16	-25	-27		
	Mean	4	11	25	41	54	72	74	69	63	50	33	17	44	16		

## NEW JERSEY.

*Atlantic City.* Elevation virtually sea-level. The hotels and cottages are from five to fifteen feet above sea-level. Situated on the southeastern coast of New Jersey upon the central railroad lines, Atlantic City is very accessible, and offers many attractions as a winter and summer resort. It is a regularly laid-out and handsomely built city, with a permanent population of 8000 inhabitants.

The soil is exceptionally dry and porous, being mainly sand. The air is drier than usual at seaside resorts, since all land breezes blow for long distances over a dry sandy region; the nearness of the Gulf Stream also tempers very considerably the ocean breezes.

The prevailing winds in winter are those from the west and northwest, which are usually dry and bracing. The east and south winds, which often blow for days at a time, are warmer and more humid. Fogs are exceedingly rare. There is no record of the proportion of bright, sunny days, but in the spring and summer sunny weather greatly predominates. Following is a report of Atlantic City from the U. S. Signal Office:

Year.	Temperature.			Wind. Total move- ment, miles.	Precipitation. Total inches.
	Mean.	Highest.	Lowest.		
1884 . . . . .	52.6	89.9	2.0	75.232	53.70
1885 . . . . .	50.6	91.0	5.0	75.151	38.45
1886 . . . . .	51.5	86.0	-2.0	79.553	44.80
1887 . . . . .	51.8	97.0	7.0	74.819	37.91
1888 . . . . .	50.2	91.0	2.0	88.825	44.14

**For accommodations:** At no place in the United States (outside the largest cities) can there be found so great a variety of hotels and boarding-houses, including all grades, from ordinary up to the best. Large numbers of furnished cottages are held for rent at from \$300 to \$1500 for the summer season, or from \$25 to \$200 per month in the winter and spring

seasons. The markets afford an abundance and variety of food at prices about the same as prevail in New York and Philadelphia.

In regard to accommodations, one is referred to I. G. Adams & Co. and Sternberger Bros., real-estate agents.

For out-of-door attractions there are driving, sailing, fishing, gunning, and pedestrian exercise upon the broad and high boardwalk, which extends for three miles along the beach front. Hot and cold sea-water baths indoors all the year round, and ocean bathing in the summer and autumn.

The particular advantages claimed for Atlantic City as a health resort are its tonic, invigorating sea-air, its dry climate, the absence of malaria, its fine drainage system, and a dry, sandy soil, all of which by reason of its rapid growth make it prominent among health resorts.

*Lakewood.* Situated in the eastern part of the State on the Central Railroad of New Jersey, two or three hours distant from New York City.

Elevation 40 to 60 feet. There are no statistics of the maximum or minimum daily temperature or relative humidity, but in spite of this fact "the sensation of dampness is far less than that of New York or Boston, or other portions of the Eastern States." In winter the peculiarly disagreeable weather accompanying an east wind in our seaboard cities, and known as "raw," is almost unknown; and in summer, while the weather is frequently warm, it is rarely sultry. The east wind even in winter loses its disagreeable character which makes it a bane to the Bostonian and New Yorker, and in warm weather is the pleasantest wind we have, coming, as it does, with the freshness and coolness of the sea, but deprived of its dampness by the stretch of sand and pine forest over which it has passed. "Its soil varies somewhat in its character, ranging from a light sandy loam to clear beach sand. Its streams, which are sufficient for drainage, have good banks, which they very rarely, if ever, overflow, and there is no wet meadow. There are a few peat bogs, which have been partially utilized

in the cranberry culture, and also some marl beds in the northern portion, and occasionally a cedar swamp, but these features are all of very limited extent. Leaving these out of account, the richest soil is a light, sandy, porous loam, containing about 85 per cent. of silica and only 1½ per cent. of water, while the lightest is almost pure quartz sand, 95 per cent. silica and only 0.6 per cent. water. Extensive pine forests are a prominent feature of this region. They have been in some places cut off or burned, and in some spots are replaced by oak and other deciduous trees, but there are enough left to make it pre-eminently a pine region. One consequence of the sandy nature of the soil is the entire absence of mud. Of course, during a rain or a thaw there is wet sand, but it is no more like mud than the wet sand of a sea-beach, and within a few hours after the cessation of the rain it is dry again. Melting snow does not produce slush, except in rare cases where the snow has immediately followed a freezing rain, as the dry and thirsty soil drinks up the water as fast as the melting of the snow can produce it. I have seen eight inches of snow disappear so completely in twenty-four hours that one could walk out, "across lots," with thin shoes without moistening the feet. Owing to the coarseness of the sand, there is no dust, except a slight amount in very dry weather where the roads have been covered with clay or gravel."

Fogs are very rare; and the winds are about as in other parts of the Atlantic States. There are no definite statistics as to the proportion of bright, sunny days in the year, but they are rather more than in most parts of the Atlantic States.

**Accommodations:** There are three large first-class hotels, and two smaller but good ones. Many excellent boarding-houses. Good facilities for renting or buying. The prices are about as at other health resorts; the place is popular and consequently prices are not low. For information apply to A. M. Bradshaw, Esq., Lakewood, N. J.

The attractions are excellent drives and walks, good roads for cycling, rowboats on the lake, a golf club open to tempo-

rary subscribers or introduction of a member, tennis-courts at the hotels, frequent concerts, dramatic entertainments, etc., at the hotels.

This region offers to those who cannot avail themselves of the high-altitude treatment, or on account of their condition it is contra-indicated, a refuge with the very decided advantages of an exceedingly dry, porous soil, the environment of pine forest, good accommodation and medical service, and easy accessibility from the great centres of population. "It is very exceptional for a patient with bronchial or pulmonary diseases not to derive some benefit, greater or less, from the change, and in many cases the benefit has seemed remarkable."

#### NEW MEXICO.

*Albuquerque, Bernalillo Co.* Elevation 5026 feet above sea-level. Situated in Bernalillo Co., in the north-central part of the State; population about 5000. The town rests upon a dry, sandy soil; relative humidity about the same as Colorado.

Rainfall for 1893, 7.42 inches; rainfall for 1894, 5.14 inches; rainfall for January, 1895, 1.14 inches. Dew is rarely seen, hoar-frost occasionally in the coldest weather.

Temperature: 1892. Maximum temperature 97° F.; minimum 15°. 1893. Maximum temperature 98°; minimum 11°; mean 56.2°. 1894. Maximum temperature 95°; minimum 0°; mean 54.5°. 1894. Mean range 28.4°; minimum for five months, March to July, 32°.

Fogs are of very rare occurrence; high winds are more frequent, especially in the spring and early summer months.

For proportion of bright, sunny, clear days, there were for 1893, clear days 193, partly cloudy 147; cloudy 15; for 1894, clear days 211, partly cloudy 129, cloudy 25. Percentage of clear days in 1893, 53; percentage of clear days in 1894, 58. Calling partly cloudy days as one-half sunshine, percentage of sunshine in 1893, 73; percentage of sunshine in 1894, 76.

For accommodations there are good hotels and boarding-

houses, also facilities for housekeeping. Expenses are higher here than in Eastern towns of the same size, and of necessity. Most articles of food are brought long distances by rail. Legal rate of interest (12 per cent.) makes rentals high. While many manage to live with a good degree of economy, no one should come expecting to find the comforts of home unless he is prepared to meet considerable expense. Rev. N. G. Alger is well informed in regard to accommodations.

For out-of-door life there are beautiful walks and drives, on horseback, burroback, or in carriages, with pleasant river and mountain views. Lawn-tennis and games of that nature.

The particular advantages claimed for this region as a health resort are the dryness and equability of the climate and temperature.

*Las Cruces.* Situated in the southern portion of the State on the line of the Atchison, Topeka, and Santa Fé Railroad. Elevation, 3800 feet.

A warm and dry climate with a sandy soil.

From July, 1893, to July, 1894, there were twenty cloudy days. There is no fog, and the average movement of the wind is  $5\frac{1}{2}$  miles an hour. The extreme range of temperature is from  $2^{\circ}$  to  $106^{\circ}$  F. The average is said to be about  $62^{\circ}$ .

The particular advantages claimed for this place as a health resort are: "The very mild winter climate; the absence of severe changes, dryness of the air, and sunny days."

The attractions are "shooting," good drives, and Mexican curiosities.

Address for boarding-houses, etc., Messrs. F. C. Baker, J. K. Livingston, J. R. Schmidt, R. C. Halton.

*Las Vegas.* Elevation 6500 feet. (Many of the popular resorts in the mountains near by are from 7200 to 9000 feet in altitude.)

Situated in the northern part of the State on the line of the Atchison, Topeka, and Santa Fé Railroad.

The climate is a stimulating, dry mountain one, and the

soil constantly dry with natural drainage. The mean annual temperature is 41°, and the relative humidity about 45, being very low in winter and spring—as low as 20 in March. The mean maximum and minimum temperatures for the years 1893 and 1894 are given as follows:

	1893.	<i>Max.</i>	<i>Min.</i>		1894.	<i>Max.</i>	<i>Min.</i>
January . . .	52°	19°		January . . .	46°	2°	0°
February . . .	46	25		February . . .	41	15	
March . . .	54	27		March . . .	55	28	
April . . .	64	36		April . . .	66	35	
May . . .	71	44		May . . .	73	44	
June . . .	84	52		June . . .	78	49	
July . . .	83	56		July . . .	81	51	
August . . .	76	55		August . . .	77	54	
September . . .	72	47		September . . .	72	45	
October . . .	65	32		October . . .	67	38	
November . . .	54	26		November . . .	62	28	
December . . .	51	23		December . . .	48	22	

The annual rainfall for the five years from 1888 to 1894, inclusive, was 16.77 inches, more than half falling in July, August, and September.

There are high winds in the cooler months about two-thirds of the year, generally the most prevalent the first four months of the year. There are no fogs.

For the years 1892, 1893, 1894 there were 280 clear days, 60 partly cloudy, and 25 cloudy per year. Many years' statistics at Fort Union nearby gave August the prominence as a cloudy month.

The facilities for boarding and lodging are said to be fair. At the Hot Springs, five miles distant, is the Montezuma Hotel, a fine one, at present closed, but with a prospect of re-opening soon. There is no first-class hotel in the town itself, and very few boarding-houses. Most visitors lodge in one house and eat in another. Unfurnished rooms are to be had at from \$10 to \$20 a month, and board is from \$6 to \$7 per week. Furnished houses are at times to be had to rent, and unfurnished ones more often. It is difficult to obtain servants. Adin H. Whitmore, Mayor of East Las Vegas, can furnish definite information as to accommodations.

East Las Vegas is a town of 2500 inhabitants, and has good schools, churches, an opera house, and a small hospital; there are street cars, city water, electric lights, etc. The out-of-door attractions are riding, and driving, and in winter skating.

The particular advantages claimed for this place as a health resort are those of an elevated, dry, mountain climate. "The summers in Las Vegas are simply divine, never hot or stifling, and the nights cool." The chief disadvantage is the wind and dust in winter. The climate is suited for such cases of phthisis as are proper for high-altitude treatment.

*Santa Fé.* Santa Fé is a city of about 7000 inhabitants, situated in the northern part of the State, and of an altitude of 7000 feet.

The soil is porous, and the climate mild and equable as shown by the following data :

#### ANNUAL MEAN FOR THE YEARS 1885-92.

1885	.	47.7°	1889	.	49.8°
1886	.	47.6	1890	.	50.4
1887	.	49.0	1891	.	47.3
1888	.	48.4	1892	.	49.1

#### MONTHLY MEAN.

January	.	28.3°	July	.	63.0°
February	.	31.7	August	.	65.9
March	.	39.1	September	.	59.0
April	.	45.5	October	.	49.4
May	.	56.0	November	.	36.7
June	.	65.4	December	.	40.2

For 1892 the average temperature was 49.1°; the average relative humidity 43; average velocity of wind, miles per hour, 07.7; total rainfall 11.62; number of cloudless days 248; number of fair days 97; number of cloudy days 29.

From January 1, 1893, to August 15, 1898, the number of cloudless days was 145; number of fair or partly cloudy 64; number of cloudy days 19.

There are no fogs. The worst winds are from March 15th to April 15th, when they are high and steady, but usually of short duration.

For accommodations, houses, etc., one is referred to Col. Max Frost, Santa Fé, New Mexico. There are two hotels with low weekly rates for permanent guests. The "St. Vincent Sanitarium" is also very well spoken of.

There is an abundance of hunting and fishing in the mountains near-by. Fruit-farming, stock-raising, opportunities for out-of-door games. Various social entertainments and amusements, concerts, classes, and clubs for the study of the Spanish language.

The characteristics of this region are its porous soil, dry, rarefied air, large amount of sunshine, slight variation of temperature only between the extremes of heat and cold, and the invigorating quality of the air. "It is a land of sunshine" and "extremes are unknown."

#### NEW YORK.

*Richfield Springs.* Situated in the eastern central portion of the State, south of Utica; 1800 feet above sea-level.

The soil is gravel and loam, and becomes quickly dry after showers.

The average temperature during the summer is about 76°.

The prevailing winds in summer are westerly and south-westerly. The town is protected from high winds by hills of from 300 to 800 feet high surrounding it on all sides except the south, the town being situated at the head of a valley. Fogs occur very rarely in the early morning.

For the most part the days are bright and clear. There are rather frequent thunder-showers.

There are many first-class boarding-houses and hotels, varying in price from \$6 per week to \$4 a day. Also facilities for renting and buying comfortable houses. The expense of housekeeping is reasonable. For particulars apply to Melvin Fuller, Richfield Springs, N. Y.

There are excellent roads for driving, riding, and cycling, golf, tennis, boating and fishing on Canadarago Lake three-quarters of a mile from the village.

This is a summer resort, and the particular advantages are

the sulphur springs and the pure, invigorating climate. There is a large and perfectly equipped bathing establishment for the scientific administration of these waters, under the personal direction of a competent physician. The waters are especially applicable to the treatment of rheumatism, gout, and allied conditions.

*Saratoga Springs.* Elevation, the highest point above tide-water within the village-limits is 418 feet. Situated in the east-central part of the State in a pleasant sandy valley, it has naturally a very dry soil. Temperature monthly normals as follows: January, 21°; February, 22°; March, 30°; April, 44°; May, 58°; June, 68°; July, 72°; August, 70°; September, 62°; October, 50°; November, 37°; December, 25°.

The mean daily range at Saratoga during the year is about 20°; the average daily maximum temperature is found by adding half the daily range to the monthly normals, the minimum by subtracting the same.

No observations of humidity in Saratoga have been kept, but it is claimed that Saratoga, from a climatic standpoint, is in the Champlain and not in the Hudson region, and the former is well known as the driest section of the State.

High winds are almost unknown in Saratoga, and fogs are very infrequent, sometimes a few in the early spring. No record of bright, sunny days has been kept, but there is a large per cent. in favor of this place over any other section of the State.

Saratoga is too well known to say anything about its hotels or boarding-houses; they are *first-class*. There are many fine houses to rent, also ones of moderate price; the expense of keeping house is about the same as elsewhere. Address in regard to accommodations R. F. Knapp and Lester Bros., Arcade Building, Saratoga Springs.

For out-of-door attractions there are beautiful drives (with excellent roads), parks with music, hops in the season, etc. The town has all modern conveniences, excellent water, the

streets are macadamized, sidewalks, and plenty of shade-trees. Electric road to lake, four miles distant, and to all outlying springs: the best of schools, both public and private, and churches of all the leading denominations.

The particular advantages claimed for this region as a health resort are its dry atmosphere, with cool nights and warm days in summer; its early spring, due to the sandy soil, its freedom from winds and fogs, and its many and varied mineral springs.

*Sharon Springs.* Situated in the east-central portion of New York, in a valley 1200 feet above the level of the sea.

The soil is of a limestone formation, and there is natural drainage. The air is pure, bracing, and dry. High winds are rare and fogs almost unknown. During the summer a large proportion of the days are bright and sunny.

There are a number of first-class hotels and boarding-houses from \$7 to \$21 per week. There are a few houses to rent for housekeeping, and a number of furnished cottages connected with the hotels. One is referred to John H. Gardner & Son, Sharon Springs, N. Y., for information upon this subject.

The attractions are riding, driving, various outdoor sports, and the amusements common in a summer community.

The sulphur springs and baths are the especial attractions of this place, together with a pleasant summer climate, free from malaria. It is a summer-resort only. The bathing-establishments are large and complete, and the methods of using the sulphur water are the same as at Aix les Bains, Marlioz, and Allenard. A competent physician is in constant attendance to direct the application of the waters. They are especially applicable to rheumatism, gout, skin and nervous diseases, nasal catarrh, and other affections of the upper respiratory tract.

*Saranac Lake.* Situated in the Adirondack Mountains in the northeastern part of the State, from 1540 to 1750 feet above sea-level.

The soil is sandy and very porous and in twenty-four hours after a heavy rain the roads become dusty. During the summer there are frequent rains and in consequence there is more or less moisture in the air. For four months in the winter it is very dry and cold.

The annual mean temperature is 42.5° F.; highest monthly mean 66.3°, in July; lowest monthly mean 13.4°, in February. Maximum 91°, minimum 32°, annual range 123°, mean daily range 23°.

Rainfall: Number of days in which 0.01 or more inches fell 125; total for year 34.71. Greatest monthly fall 5.06 in June. Least monthly 0.75 in April. Total snowfall 85.5.

Fogs are very rare. In summer there are sudden severe winds. In winter there is an average of about one windy day in ten.

About three days in every five are sunny. Number of clear days 132; number of partly cloudy 104; number of cloudy 129.

Good hotels open during the summer abound. In winter the hotels in the village, including the "Ampersand," remain open. There are a number of good boarding-houses at various prices. Cottages can be bought or rented, but are somewhat expensive: unfurnished \$30 to \$70 a month; furnished \$75 to \$150. Suites of two to four rooms can be rented very much more cheaply. One is referred to J. Reginald Foster, Saranac Lake, who will answer inquiries regarding these matters.

There are fishing and hunting in the season, fair roads for driving, sleighing for three months every year; a library in the town.

The advantages of this region as a health resort are a dry soil, pure air, with a considerable amount of sunshine; cold, dry, stimulating winter climate, and ease of accessibility from the larger cities of the east—eleven hours from New York.

The Adirondack Cottage Sanitarium is  $1\frac{1}{2}$  miles from the village of Saranac Lake, and accommodates 80 patients. It is built on the cottage plan, each cottage holding from 2 to 5

patients. Here is a large, open-air, billiard, pool, and recreation hall. Only patients in the incipient stages of tuberculosis are received, or when in the opinion of the examining physician the disease may be arrested in more advanced cases. The charges are \$5 a week; persons who can pay higher are not received. About 25 per cent. of all cases are discharged "apparently cured;" in 25 per cent. the disease is arrested; in 25 per cent. improved; and in 25 per cent. unimproved. It is open the whole year. Patients do better and feel better during the winter months.

#### NORTH CAROLINA.

*Hot Springs.* Elevation 1325 feet above sea-level. Situated in the western part of the State.

It has a dry, porous soil, so much so that rain disappears almost immediately after falling. The diurnal ranges of the thermometer are very small, the average humidity is 66 per cent. There are very seldom high winds, and fogs are only occasionally seen on the tops of the mountains.

The meteorological record kept for the United States Signal Service shows that out of 153 days (from July 1st to December 1st), 108 days were clear, 32 fair, 4 cloudy, and 9 rainy, permitting the most confirmed invalid to enjoy being out of doors all, or nearly all, day, for 140 days, and being confined to the house but 13 days in five months. The same record shows for the following winter that of the 182 days of the six months from November to April, inclusive, 150 days were clear and fair, and 32 days cloudy or rainy, and that the average mean temperature during these months was 46.9° and the humidity 70.7.

For accommodations there are one first-class hotel, two comfortable boarding-houses, and a good many simple wooden cottages. The living is inexpensive. Dr. Dorland and Prof. Smith (teachers at Dorland Institute), also Mrs. Swaine or Mr. Shaw, all of Hot Springs, can give information in regard to boarding accommodations.

For out-of-door sports there are drives, and good oppor-

tunities for climbing, tennis, swimming-pool in summer, mineral baths, massage, etc.

The particular advantages claimed for this region as a health resort are its dry atmosphere, the small daily ranges of temperature, and the absence of fogs and winds. The clemency of the weather enabling and inducing patients to spend the greater part of the day out of doors is also a great attraction in favor of the healthfulness of this region.

*Southern Pines and Pinebluff.* Situated seventy-five miles southwest of Raleigh, they are in the heart of the pine-belt of North Carolina. The former is a well-established resort. The soil is exceedingly porous, the air pure and invigorating, much warmer than points at the same latitude to the westward and sufficiently removed from the coast to avoid all dampness. Southern Pines has a large and well-conducted hotel. Pinebluff is a new resort and affords accommodations at more reasonable rates.

Simple cottages have been erected at Pinebluff which may be rented with or without board. They are neatly furnished and will be rented at \$50 for the season or \$20 per month. Excellent table-board can be had not exceeding \$5 to \$6 per week, or for a small additional charge meals will be sent to cottages. This plan, where there are two or more persons coming together, offers many advantages, combining home comforts, quietness, absolute rest where necessary, and cheapness of living. Reached by Seaboard Air Line Railroad. For additional information address J. T. Patrick, Pinebluff, N. C.

See also Vol. III. of the TRANSACTIONS of this Association.

#### PENNSYLVANIA.

*Kane, McKean Co.* Situated in northern Pennsylvania, in the highland region, at an elevation of 2000 feet. It is drier than any other part of Pennsylvania, and is on the watershed between the Ohio and Susquehanna River systems.

The surface of the country is diversified, rough and mountainous in many places in the extreme, and in most places

still covered with forests to the top of the mountain. The forests consist largely of hemlock, with here and there some pine, while there are many ridges timbered with beech, birch, and maple. The occupation of the inhabitants is varied, consisting in a limited degree of agricultural pursuits, and to a large extent of manufacturing and the production of petroleum. Population 4000.

The soil is sandy and absorbent.

	<i>Mean Max. Temperature.</i>		<i>Mean Min. Temperature.</i>	
June	. . . . .	75°	June . . . . .	52°
July	. . . . .	80	July . . . . .	55
August	. . . . .	77	August . . . . .	53
September	. . . . .	73	September . . . . .	52

The humidity is low. Sometimes the winds are high, but there are no fogs. There are no valleys. The proportion of clear and cloudy days is as follows :

	1894.	<i>Clear.</i>	<i>Partly Cloudy.</i>	<i>Cloudy.</i>
April	. . . . .	12	7	11
May	. . . . .	10	7	14
June	. . . . .	16	10	4
July	. . . . .	19	8	4
August	. . . . .	17	12	2
September	. . . . .	9	13	8

There is one good hotel open all the year, besides a few houses for rent. For particulars address C. H. Kemp, Thomson House, Kane. The attractions are the ordinary ones of a mountain region.

The particular advantages of this region are its easy accessibility, moderate elevation, stimulating climate, dry and therefore permeable soil, extensive forests, a clear sky, and ample opportunities for out-of-door life.

*Eagle's Mere, Sullivan Co.* An agreeable, cool, summer resort : elevation 2060 feet. Boating and bathing in the lake are the chief attractions. There are four hotels, and good cottages can be rented. Address Captain E. S. Chase.

*Mount Pocono and Pocono Summit, Monroe Co.* Elevation 1700 to 2000 feet. There is great dryness of air and soil, and for four months in the year there is an agreeable climate.

The mountain-side is covered with a scant forest and a profusion of laurel and rhododendrons. While the forests have been devastated in many sections, large tracts still exist composed of white and yellow pine, hemlock, spruce, and balsam. On the Naomi Pines property,  $4\frac{1}{2}$  miles west of Pocono Summit Station, there is at present a tract of about one hundred acres of white pine—the primitive forest.

As proof of the dryness of the atmosphere, it is stated that, as a rule, the grass will be entirely free from dew on summer nights as late as eleven o'clock.

See also Vol. III. of the TRANSACTIONS of this Association.

#### TEMPERATURE AT NAOMI PINES, POCONO SUMMIT, PA.

Recorded by W. A. CAREY, M.D.

Date.	July, 1894.			August, 1894.		
	8 A.M.	12 M.	8 P.M.	8 A.M.	12 M.	8 P.M.
1	...	...	...	66°	78°	64°
2	...	...	...	64	70	64
3	...	...	...	66	72	66
4	70°	74°	58°	56	60	56
5	66	70	58	54	64	56
6	60	64	58	58	70	60
7	58	60	52	60	74	62
8	50	56	50	68	78	64
9	50	56	46	64	70	62
10	56	64	60	60	66	54
11	64	72	62	64	70	54
12	66	72	68	54	52	48
13	72	80	70	56	68	60
14	72	74	66	60	70	58
15	64	72	64	62	78	60
16	66	72	64	56	64	54
17	68	74	68	50	68	50
18	68	80	68	60	72	64
19	68	82	72	68	72	64
20	68	84	74	58	62	56
21	72	78	74	48	60	50
22	60	62	80	48	66	54
23	60	66	60	58	78	62
24	60	64	60	60	80	64
25	66	78	68	60	78	68
26	68	80	72	60	72	64
27	70	84	70	54	70	60
28	72	86	72	60	74	60
29	72	84	62	52	62	54
30	66	74	64	60	66	56
31	68	80	67	50	64	50
Average	64°	72°	57°	58.5°	68.3°	58.6°

July. 23 perfectly clear days; prevailing winds northwest.

August. 17 perfectly clear days; 2 rainy.

9 partly clear days; 3 showery days.

Mount Pocono is three hours by rail from New York, and five hours from Philadelphia. Address the "Wiscassett," Pocono Mountain House, or "Swiftwater."

## SOUTH CAROLINA.

*Aiken.* Elevation 565 feet. Situated in the southwestern part of the State, on the South Carolina and Georgia Railroad, 120 miles from Charleston and 17 miles from Augusta, south, being only twenty-two and a half hours from New York, Ga. Aiken is within easy access from all points north and

The climate is temperate during the season; the prevailing wind is from the southwest. Aiken is to be classed in the moderately dry climates; sunshine is one of its most important factors. From November 1st to May 1st the average number of rainy and cloudy days is 27; all the rest clear and fair. There are occasional fogs in the fall in early morning, but they are gone by 9 A.M. There are also high winds occasionally.

## METEROLOGICAL RECORD TAKEN AT AIKEN, S. C.

By a Voluntary Observer, United States Signal Service.

Lat.  $33^{\circ} 32'$ ; long.  $81^{\circ} 34'$ ; altitude, 565 feet; period of observation, 1888 to 1894.

	Mean temperature for months at hours of			Mean temperature of months ( $7+2+9+9$ ). 4.	Mean temperature from max. and min.	Mean barometer.	Direction of prevailing wind.	Mean relative humidity.	Average number of clear days,	Average number of rainy and cloudy days.	Mean rainfall in inches.			
Nov.	7 A.M.	2 P.M.	9 P.M.	48.33	61.47	52.69	53.54	55.30	29.623	S.W.	59.65	27	3	1.33
Dec.	42.48	57.05	48.02	48.89	50.71	29.540	W.& S.W.	58.58	26	5	2.65			
Jan.	41.28	52.67	44.54	45.75	47.87	29.615	N.E.	63.17	23	8	4.68			
Feb.	44.41	56.84	49.92	50.27	52.01	29.622	S.W.	60.31	24	4	4.35			
Mar.	49.55	59.80	53.36	54.02	52.03	29.494	S.W.	57.90	26	5	6.07			
Apr.	57.23	71.78	53.26	58.88	64.33	29.517	S.W.	52.78	29	2	2.33			
Mean	.....	.....	.....	51.89	53.70	29.573	.....	58.73						

These observations were taken with U. S. Signal Service instruments, and according to their regulations, thermometers being exposed on north side of the house, in the shade, and protected from reflected sun rays.

The accommodations of Aiken are excellent; the Highland Park Hotel is first-class, well constructed and well equipped,

and accommodates 300 guests. The boarding-houses are numerous, and superior board can be obtained in them from \$8 to \$15 per week. There are always plenty of houses to rent, all furnished. When people do not wish a whole house they can rent two or three rooms with kitchen.

There are good schools and churches, and it is proposed soon to have a sanitarium arranged for diseases of the lungs.

For out-of-door attractions there are fine golf and polo grounds, race-track, fox-hunting, quail-shooting, tennis, fine drives, etc.

The particular advantages claimed for this place as a health resort are the dryness of atmosphere, with a great amount of sunshine and clear days; there is no dust, and the air is laden with balsamic odors from the numerous forests of pines surrounding the town.

For further information upon the effects of the climate, particularly in the treatment of pulmonary diseases, one is referred to papers by the late W. H. Geddings, M.D., in the *Medical Record*, New York, November 15, 1879, October 30 and November 6, 1880, October 3 and 10, 1885, and December 22, 1888, and in Vol. III. of the TRANSACTIONS of this Association.

*Camden.* Elevation between 150 and 200 feet above sea-level. Situated in the north-central part of the State, about thirty miles from Columbia. Camden is easy of access, being only twenty hours from New York.

It is in the piney-wood, sandhill region of the State, and has nearly 3000 inhabitants. The soil is very dry and porous. Immediately after a heavy shower and for some time after a continued rain the roads are not wet, the water soaking so quickly into the sandy soil.

Temperature for thirty-one years : Mean spring temperature  $61.90^{\circ}$ ; summer,  $79.32^{\circ}$ ; autumn,  $62.26^{\circ}$ ; winter,  $45.16^{\circ}$ . Average annual rainfall for twenty years, 42.22 inches. The prevailing winds are south and southwest. In February and

March there are some high winds, but generally the air is remarkably dry, soft, and balmy.

Camden has a sunny climate; the exact number of sunny, clear days not obtainable.

The accommodations of Camden are excellent, there being a number of boarding-houses, besides "The Hobkirk Inn," which is a well-kept house. For renting or buying houses information can be obtained from W. E. Johnson, Esq., and P. H. Nelson, Esq.

For out-of-door attractions there are fox, quail, and deer-hunting, tennis, etc.

The particular advantages claimed for this region as a health resort are its dry, balmy, bracing air, with conditions favorable for continual out-of-door life, and the depth of sandy soil, which insures good drainage.

*Summerville.* Elevation 75 feet above sea-level. Situated in the southeastern part of the State, twenty-two miles from Charleston. Summerville is easy of access, being connected by the South Carolina Railroad from Charleston, Augusta, and Columbia, and being but twenty-four hours from New York. There are about 3000 inhabitants.

It has a sandy soil, overlying a clay subsoil; its surface is slightly hilly, and there is no stagnant water. The streets are dry in a few hours after the heaviest rainfall. The average temperature for sixteen years has been 71.6° maximum and 58.9° minimum. Its mean rainfall for nineteen years was 56.76 inches. There are never high winds, except in the case of a cyclone.

The proportion of bright, sunny days is said to be over nine-tenths.

For accommodations there are two first-class hotels, one "The Pine Forest Inn," and plenty of boarding-houses. The postmaster of Summerville, Capt. James O. Tadd, will furnish any information in regard to accommodations.

For out-of-door sports there are hunting, fishing, and visits to interesting points in the vicinity, tennis, etc.

The particular advantages claimed for this region as a health resort are its dry soil and pine forests, its equable temperature, and freedom from the emervating heat peculiar to points further south. It is also the only place of the kind where the pines are protected by law, and where they are thickly scattered throughout the town instead of bordering upon it.

#### TENNESSEE.

*Chattanooga.* Elevation 762 feet. The surrounding mountains are higher in elevation, such as Missionary Ridge, 1320 feet, and Lookout Mountain, 2160 feet, both of which points are easy of access.

Chattanooga has about 50,000 inhabitants, and is situated on the southern bank of the Tennessee River, on the extreme southeastern border of the State.

The scenery in and around Chattanooga is ever varying and beautiful, the air is exhilarating and invigorating, and of great purity. The soil is dry and loamy; everywhere excellent drainage. Maximum daily temperature 101°, minimum 7° below zero.

There are occasional winds and fogs, but the city is so surrounded with mountains that it is greatly shielded in this way.

The accommodations of Chattanooga are excellent. One of the fine hotels of the South is "Lookout Inn," on Lookout Mountain, open all the year. There are also numerous boarding-houses and rooms in private houses. Dr. W. A. Applegate will be glad to furnish any information in regard to accommodations.

The relative average annual humidity is 71 per cent., and the average annual number of clear days is 117, fair 147, and cloudy 101.

For out-of-door attractions there are beautiful drives, built by the government, to the Battlefield Park at Chickamauga, also fine country roads good for bicycle-riding, etc. Good boating and fishing on the Tennessee River.

The particular advantages claimed for Chattanooga are the

temperate climate—there are no very sudden severe changes; the large number of sunny days in which the invalid can remain out of doors, and the invigorating effect of the air.

#### TEXAS.

*Boerne.* Boerne is situated in southwestern Texas, thirty miles northwest of the city of San Antonio, on the San Antonio and Arkansas Pass Railroad. It has a population of 800, and has an average altitude of 1550 feet.

The soil is composed of gravel and sand with occasional streaks of adobe, and a substratum of porous limestone. The drainage is good, both on account of the slope and the porous character of the soil.

The average temperature at noon for spring is  $73.8^{\circ}$ ; summer,  $85.3^{\circ}$ ; autumn,  $69.5^{\circ}$ ; winter,  $62.7^{\circ}$ . The maximum daily temperature is  $68.74^{\circ}$ ; the minimum daily temperature is  $59.71^{\circ}$ .

The mean relative humidity is from 72 to 66, and the annual rainfall about 30 inches. The mean daily barometer 28.44, not reduced to sea-level. Occasionally during the winter months there is a sudden fall in temperature during the prevalence of a "Norther;" this fall depends on the velocity of the wind and ranges from  $5^{\circ}$  to  $25^{\circ}$ , and lasts from a few hours to three or four days.

The windfall is light, from the south and southeast, the velocity ranging from 4 to 7 miles an hour, and occasionally increasing from 14 to 25 miles during a "Norther." There are a few light morning fogs in the late autumn and winter, not exceeding a total of eight days in the year. The average number of sunny days is 285, and of cloudy 80. The number of days in which there is more or less sunshine, and in which an invalid can be out of doors, is 355.

There are no first-class hotels, but a number of fairly good ones. There are good boarding-houses both in the town and a few miles from it. Many ranches in the neighborhood also take boarders. The price of board and room at the hotels and boarding-houses is from \$20 to \$40 a month. Houses in the

town can nearly always be rented for from \$5 to \$20 per month, the latter price being for plainly furnished houses of four to five rooms. Good facilities exist for housekeeping, and living is cheap. Particulars can be obtained from Mr. H. Graham, Boerne, Texas.

The attractions are all out-of-doors, riding, driving, hunting, and fishing. San Antonio, the largest city in the State, is within an hour's ride by rail.

This region affords a dry, moderately warm, equable climate, a dry soil with good natural drainage, a large number of bright, sunny days, and freedom from dust-storms. There are very few days in the year unsuitable for out-of-door exercise. The altitude (from 1500 to 1670 feet) insures pure and bracing air.

#### UTAH.

*Salt Lake City.* Altitude 3500 to 6000 feet with higher points conveniently accessible. The altitude of Salt Lake City is 4348 feet above sea-level.

For average temperature, relative humidity, number of clear days, etc., see following table :

	Aver'ge mean temp.	Aver'ge max. temp.	Aver'ge min. temp.	Relative humidity per cent.	Average number clear and fair days.	Prevail- ing winds.	Rain (inches).
January . . .	28.7°F.	48.8°F.	-6.1°F.	59.4	19.8	S.E.	1.33
February . . .	33.0	50.9	3.0	57.2	18.3	S.E.	1.37
March . . .	41.7	63.9	21.6	49.1	20.5	S.E.	2.01
April . . .	48.7	71.7	29.7	46.6	20.2	N.W.	2.44
May . . .	57.2	83.3	35.6	40.6	23.7	N.W.	2.14
June . . .	67.7	94.2	46.4	32.6	26.9	N.W.	0.67
July . . .	75.2	95.0	51.6	30.1	28.3	N.W.	0.59
August . . .	74.1	95.0	49.3	31.5	28.1	S.E.	0.84
September . . .	64.0	87.5	53.1	32.8	27.3	N.W.	0.85
October . . .	51.1	75.8	28.1	43.0	24.4	N.W.	1.81
November . . .	39.0	61.4	18.8	52.1	21.5	N.W.	1.47
December . . .	32.6	51.6	9.6	60.6	18.2	N.W.	1.48
Winter . . .	31.4	50.4	0.2	59.0	56.3	S.E.	4.18
Spring . . .	42.5	72.9	28.9	45.4	64.4	N.W.	6.59
Summer . . .	71.3	94.7	49.2	31.4	83.3	N.W.	2.04
Autumn . . .	51.3	74.9	30.0	42.9	73.2	N.W.	4.13
Year . . .	49.5	.....	.....	41.6	277.2	N.W.	16.94

This table shows a period of observations extending from 1874 to 1884, inclusive.

This region has an exceptionally cool and equable climate, the seasonal changes in the temperature being so gradual

and the air so dry that neither the heat of summer nor the cold of winter produces the unpleasant effect that it otherwise might. There are very few high winds, and an entire absence of cyclones and hurricanes.

During the last few years Salt Lake City has grown from an old-fashioned village into a lovely modern city of 70,000 inhabitants, with paved streets and walks, an efficient sanitary system, a good electric street-car service, a perfect system of water-works, sewerage, etc.

Fine hotels, theatres, stores, and residences have taken the place of the old buildings. The bathing facilities have been greatly improved and are very fine. There is the "Salt Lake Hot Springs Sanitarium," to which the Sulphur Springs water is carried in pipes, and where all kinds of sulphur baths may be taken. There is also the "Salt Air Bathing Resort," one of the finest salt-water bathing resorts in the world.

For references in regard to boarding-houses, etc., refer to F. A. Harris, 734 Owen Street, Salt Lake City, and J. H. Bacon, Grand Hotel.

For out-of-door attractions there are those always found at an altitude resort, and hunting, fishing, salt-water bathing, etc.

The particular advantages claimed for this region as a health resort are the dryness and equability of the soil and temperature, the large amount of sunshine, and the absence of high winds. Coupled also with the climatic advantages offered the health-seeker in Utah, there are excellent opportunities for home-seekers and investors, especially to those who want a place where the business conditions are not only favorable, but where they can also enjoy while at work pure, wholesome air.

See also Vol. VII. TRANSACTIONS of this Association.

#### ISLANDS OF BERMUDA (ENGLISH).

Elevation, highest point of land on the Islands, 262 feet above high water the chief town, Hamilton, about 20 feet above sea-level.

The Bermuda Islands lie 700 miles southeast of New York

and about 600 miles from the nearest point on the American coast. They are about in the latitude of Charleston, S. C., and so are not subject to extreme heats, while the Gulf Stream, passing between them and the American Coast, protects them entirely from the cold winds and storms which visit even the most Southern of the United States in the winter months. Frost and snow are absolutely unknown in Bermuda.

The soil is composed entirely of a porous coral rock, which absorbs all rainfall at once ; there are no fresh water-ponds, marshes, or damp places of any kind.

In summer the temperature hardly ever exceeds 87°, and in winter is never lower than 50° ; and the temperature of the winter months is remarkably equable, with a daily variation of not more than 8° or 10°. The humidity is high, not far from 90°. For more than two-thirds of the year the days are bright and sunny.

For accommodations there are two large hotels, "The Hamilton" and "The Princess," both first class in every respect. There are also many private boarding-houses throughout the Islands, all kept by most respectable people, and the terms are very reasonable. Addresses of some of the boarding-houses in the town of Hamilton : A. Paschal, American House ; W. Bradley, Windsor House ; Miss F. Smith, Victoria Lodge ; Miss Edgar, The Brunswick ; Miss Bennett, Dorchester Lodge.

The facilities for enjoying outdoor life are abundant and varied. There are many miles of perfect coral roads and the drives are picturesque and delightful. There is unlimited scope for the enjoyment of riding, driving, bicycling, rowing, sailing, fishing, and bathing, and there are also numerous excursions to points of interest that can be made by both land and water.

The particular advantages claimed for this region as a health resort are its equable climate and temperature, and its freedom from malaria and fogs, which, with the picturesque beauty of its scenery and its unique departure in appearance from anything to be found elsewhere, make it, in short, an ideal winter resort.





